

REMARKS

This paper is filed in response to the first Office Action. Claims 4-5 and 7-8 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because the equation variables were not defined. Claims 4-5 and 7-8 have been amended to address the Examiner's request, and the amendments are fully supported by the text of the written description at pages 15-16. In particular, claims 4 and 8 have been amended to describe that the average latency is a set of latency measurements lat where t_i is the time of the i^{th} measurement and C is a time constant. Claims 7 and 8 describe that the average loss is a set of loss measurements $loss$ where t_i is the time of the i^{th} measurement and C is the time constant. Claims 5 and 8 also have been amended to define a so-called "max" function as one that selects either a base constant or the average latency value, whichever is greater. The penalty factor is also expressly defined. All claims are now deemed to fully comply with § 112, second paragraph.

Claims 4-5 and 7 are not subject to any art rejection. Thus, these claims should now be in condition for immediate allowance.

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Merriam in view of Kirschenbaum. Claims 6 and 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Merriam in view of Kirschenbaum as applied to claims 1 and 8, further in view of Rakoshitz et al. Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Merriam, Kirschenbaum, Rakoshitz et al., further in view of Bournas. These rejections are respectfully traversed, for the following reasons.

According to the invention, it has been found that certain network tests can be used to generate data that (with appropriate processing as the invention describes) affords a good approximation or "proxy" of a download time for a given file. As a consequence, it is possible to predict the file download time without having to actually download the file and measure that download time directly. The ability to predict file download, e.g., by using an exponentially time-weighted average of certain data (e.g., pings, packet loss measurements, etc.) in lieu of downloading the file directly was described in the original claims but has been further re-emphasized by the independent claim amendments that are presented here. Thus, the first step of claim 1 now recites:

“periodically initiating a test probe from a server to a given point in a network in lieu of performing a file download.” Independent claim 8 states in similar manner:

“periodically initiating a test probe from a server to a given point in a network in lieu of performing a file download and measuring the file download time directly.” Claim 10 includes an identical clause. Thus, each claim now emphasizes that the file download prediction is performed using the remainder of the recited steps (which are, in of themselves novel) and without performing the file download itself. The specification describes this as a “proxy” calculation.

An obviousness determination begins by analyzing the scope and content of the prior art.

Merriam, the primary reference, does generate performance measurements but it does not disclose or suggest predicting file download time without actually performing the file download itself. Rather, the reference teaches precisely the opposite – a file is downloaded and the download time is measured. (See, e.g., steps 52-58 in Figure 3 and the accompanying text). This is precisely what the present invention avoids.

Claim 1 as originally filed included the step of “using the exponentially time-weighted average of the network performance data to generate a value indicative of the file download time.” While the Examiner was correct that Merriam does not disclose or suggest the calculation or use of an exponentially time-weighted average,” he erred in not recognizing the requirement (as originally claimed) that this average be used “to generate a value indicative of the file download time.” Thus, the original language (at least implicitly, if not explicitly) taught that the average was used in lieu of the file download time itself. Nothing in Merriam suggests this feature of the present invention.

Moreover, while Kirschenbaum makes reference to and describes an “exponential averaging filter,” despite the semantics the equations described in Columns 14-15 are not an “exponentially time-weighted average.” Thus, for example, in one illustrative embodiment as described at page 16, lines 1-3 of the written description, this average is computed by summing each weighted latency (or loss) measurement and dividing this sum by the sum of the weight factors (i.e., $e^{-30/300} + e^{-60/300} \dots$ etc.). Kirschenbaum does not describe any such calculation.

The Office, of course, bears the initial burden of establishing obviousness. Where a § 103 rejection is premised on a combination of references, as is the case here, there must be evidence of a suggestion, teaching, or motivation to combine the references. Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996). The showing of a suggestion, teaching or motivation must be *clear and particular*. C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." E.g., McElmurry v. Arkansas Power & Light Co., 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993). And, conclusory statements regarding alleged common knowledge and common sense cannot substitute for evidence that one of ordinary skill in the art would be led to combine the teachings of the prior art. In Re Sang Su Lee, No. 00-1158 (Fed. Cir. 2002). Respectfully, the contention that one of ordinary skill would combine these references (Office Action at page 4) is arguably hindsight, but the argument also misses the point, because claim 1 as now amended recites the use of the "exponential time-weighted average" to "predict" file download time. Nothing in the references discloses or suggests any such usage and thus the invention "as a whole" is not obvious within the meaning of § 103(a). Moreover, one of ordinary skill would not be motivated to modify Merriam to include Kirshenbaum's "exponential averaging filter" (assuming it were the same as the claimed "exponentially time-weighted average," which it is not) as a "proxy" for downloading and measuring the file, because to do would destroy the basic purpose of the Merriam invention – which was to measure the full Web server - client browser interaction including a combination of server processing time, page download time, and page rendering time. Quite clearly, such a measurement could not be done if the actual page download time were omitted from the calculation.

The other cited references do not make up for these deficiencies of Merriam and Kirschenbaum, and the Examiner does not rely upon them for this purpose. In any event, neither Rakoshitz et al. nor Bournas disclose or suggest using an exponentially

time-weighted average generated from performance tests to predict file download time in lieu of actually downloading the file itself.

Claim 10 is also patentable on separate grounds. This claim includes the step of "generating a value indicative of the file download time, wherein the value is a function of the time-weighted average of latency modified by a penalty factor that is a function of the time-weighted average of loss." (Each of dependent claims 5 and 9 describe this feature in a somewhat similar manner). This is a preferred embodiment of the invention, and there is simply no disclosure, teaching or suggestion of a file download time proxy value generate in this manner.

A Notice of Allowance is respectfully requested.

Respectfully submitted,



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